

# Work Order ID: 75374

Friday, October 21, 2011 9:00:29 AM

**\*75374\***

Page 1

Item ID: D2333-107 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Tubing Assembly  
 Start Date: 10/24/2011 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 11/4/2011 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: *mf* Date: *11-10-21* Tooling: Date: Run Start **\*NR1\***  
 QC: Date: SPC (Y/N): Date: Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2333	Rev B

100 NC BRAKE 0.00  
**\*100\***  
 Brake NC  
 Brake NC  
 Memo  
 Bend per Template T2333-103 & Assemble as per Dwg D2333 Flare ends as per Dwg D2333  
*Purchasing PO 15232 11-10-24*

110 QC Inspect part completeness to step on W/O 0.00  
**\*110\***  
 QC  
 Memo  
 Quality Control  
*105 - inspect for transit damage. attached c/c to W/O.*  
*11.11.28*

120 Identify as per dwg & Stock Location 0.00  
**\*120\***  
 Packaging  
 Packaging  
 Memo  
*ST-Ship*  
*11-11-28*

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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**Work Order ID 75374****\*75374\***

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Friday, October 21, 2011 9:00:29 AM

Item ID: D2333-107      Accept      **\*N900040100\***      Setup Start **\*NS1\***  
Revision ID:      Stop **\*NS2\***  
Item Name: Tubing Assembly  
Start Date: 10/24/2011    Start Qty: 1.00      **\*1\***      Cust Item ID:  
Required Date: 11/4/2011    Req'd Qty: 1.00      **\*1\***      Customer:  
Reference:

Approvals:    Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_      Run Start **\*NR1\***  
                 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_      Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC21- Final Inspection - Work Order Release	0.00							
<b>*130*</b>									
QC	Memo	0.00							
Quality Control									

11/11/2011  
11-11-20

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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# Picklist Print

Friday, October 21, 2011 9:00:29 AM

Page 1

Work Order ID: 75374  
 Parent Item: D2333-107  
 Parent Item Name: Tubing Assembly  
 Comments: IPP C00.12.05Re-formatEC

Start Date: 10/24/2011 Required Date: 11/4/2011  
 Start Qty: 1.00 Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN818-16J ✓ Nut		Purchased	No			100	Each	4.0000					
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST332		4							
				107715		4							
M2650-16 Firesleeve-crinkle		Purchased	No			100	f	9.5000					
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST420A		9.5							
				106071 ✓		9.5							
M304TR1.000W.049 ✓ 304 RD Tube 1.00 x .049W		Purchased	No			100	f	13.9863					
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT018		13.986315							
				111457		12.66							
				117598		1.326315							
MS20819-16J ✓ Sleeve		Purchased	No			100	Each	0.0000					

*Handwritten notes and signatures:*  
 2 M1193360  
 1.51  
 11-11-28  
 1.51  
 1  
 2 M1193356 4/10/25

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
B WILLIAMS	B WILLIAMS	DRAWING NO.	REV. B
CHECKED BW	APPROVED [Signature]	D2333	SHEET 1 OF 4
DATE	TITLE		SCALE
96:02:27	TUBING ASSEMBLIES		
B	96:02:27	ADDITIONAL DRAWINGS ADDED	

-107	-105	-103	-101	Part No.	Description
X	X	X	X	D2333	B205 HEATER TUBES
	2	2	2	AN818-16J	NUT
	2	2	2	MS20819-16J	SLEEVE
1	1	1	1	FIRESLEEVE 2650-16	INSULATION SLEEVE
2				AN818-16D	NUT
2				MS20819-16D	SLEEVE

MATERIAL: 1" OD X 0.049 WALL 304/316 STAINLESS STEEL

NOTES:

1. BEND PER TEMPLATES IDENTIFIED PER TUBE PART NUMBER WITH 'T' PREFIX
2. FLARE TO MATE MS33514 FLARED FITTINGS
3. INSTALL 2650 FIRESLEEVE (STRATOFLEX) OVER ALL TUBE ASSEMBLIES

# 75374

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

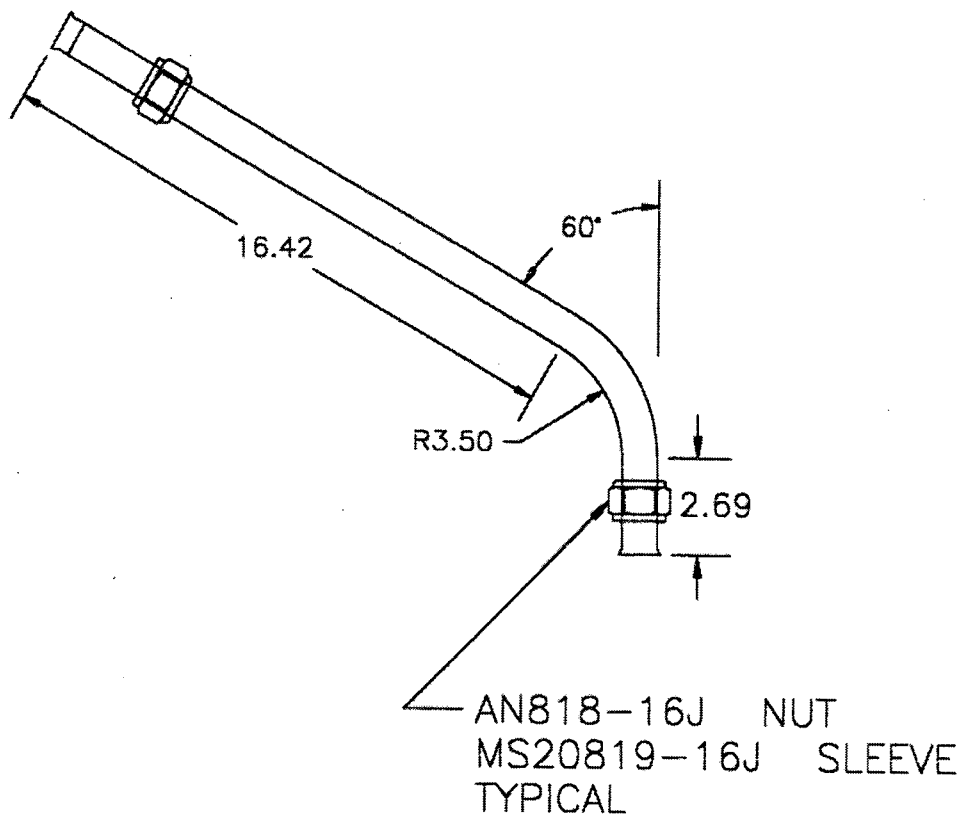
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries





DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
B WILLIAMS	B WILLIAMS	DRAWING NO.	REV. B
CHECKED BW	APPROVED [Signature]	D2333-105	SHEET 3 OF 4
DATE	TITLE		SCALE
96:02:26	HEATER TUBING		1:1



# 75374

INSTALL FIRESLEEVE ON ALL TUBING

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

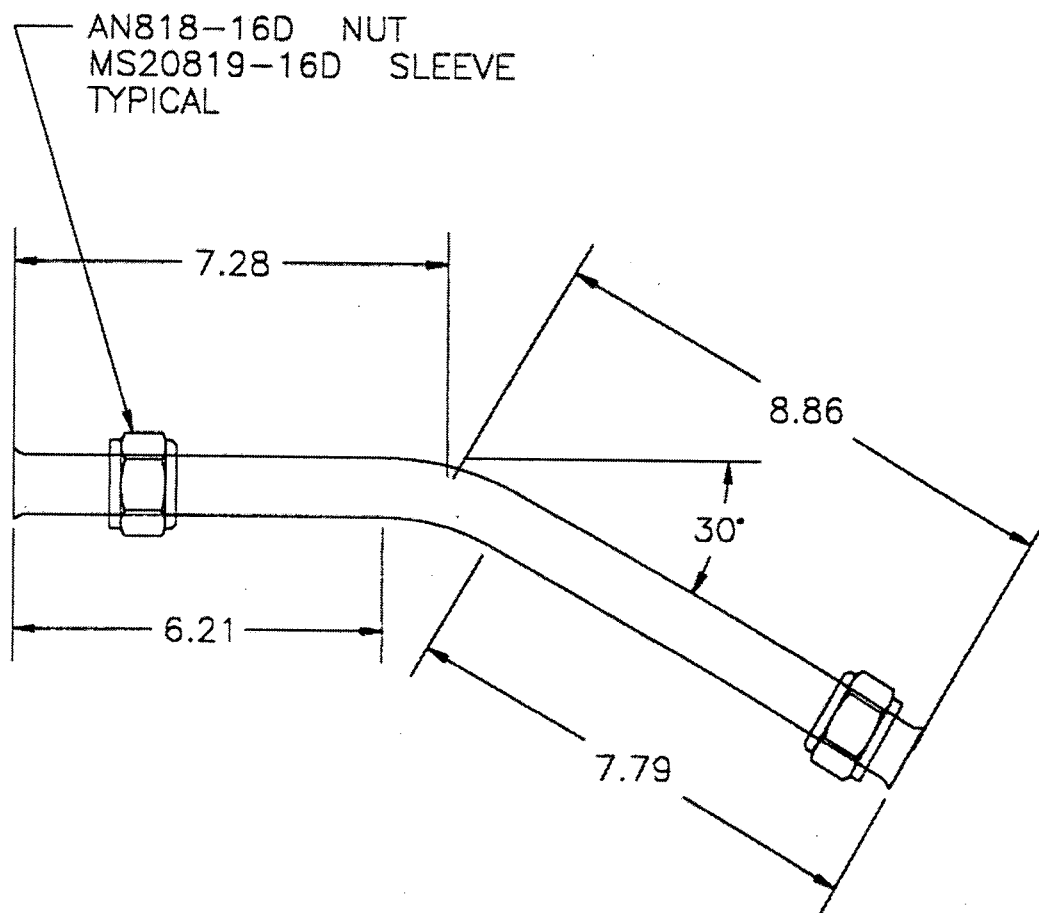
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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DESIGN	DRAWN BY	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
B WILLIAMS	B WILLIAMS	DRAWING NO.	REV. B
CHECKED BJS	APPROVED	D2333-107	SHEET 4 OF 4
DATE	TITLE		SCALE
96:02:26	HEATER TUBING		1:1



# 75574

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **P215232**

Purchase Order Date 10/24/2011

PO Print Date 10/27/2011

Page Number 2 of 2

Order From :

VC-CIN001

CINTUBE LTEE  
333 ST-JOSEPH BLVD  
LACHINE, QC H8S 2K9  
CA

Contact Name

Vendor Phone 514 634 3592

Vendor Fax 514 636 3336

Vendor Account Nbr

Buyer

Brigitte Golden

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

3	D2333-105P	Tubing Assembly	11/2/2011	1.00	FedEx Overnig	\$320.0000	\$320.00
			Yes	Each			

Special Inst:

Make per Dwg: D2333 Rev: B  
C of C required  
All parts supplied by Dart  
2 X AN818-16J Nut B119360  
1.2' X M304TR1.000W.049  
Tube B111457  
2 X MS20819-16J Sleeve B119356

4	D2333-107P	Tube Assembly	11/2/2011	1.00	FedEx Overnig	\$320.0000	\$320.00
			Yes	Each			

Special Inst:

Make per Dwg: D2333 Rev: B  
C of C required  
All parts supplied by Dart  
2 X AN818-16J Nut B119360  
1.2 X M304TR1.000W.049  
Tube B111457  
2 X MS20819-16J Sleeve B119356

PO Total:

\$1,280.00

Change Nbr: 4

Change Date: 10/27/2011

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable

CINTRAGE DE PRECISION, DE TUBES, TUYAUX, CORNIÈRES, POUTRES,  
PROFILÉS EN "U", ET SERPENTINS.  
MANUFACTURIER DE GÉNÉRATRICE À VAPEUR, ÉLÉMENT CHAUFFANT,  
RÉCUPÉRATEUR DE CHALEUR, ÉCONOMISEUR ETC.  
PRECISION BENDING OF TUBES, PIPES, ANGLES, BEAMS, CHANNELS, COILS.  
MANUFACTURERS OF STEAM GENERATORS, THERMAL FLUID HEATERS,  
WASTE HEAT RECOVERY UNITS, ECONOMIZERS

333 BOUL. ST-JOSEPH, LACHINE, QUÉBEC H8S 2K9  
TÉLÉPHONE: (514) 364-6426 FAX NO: (514) 636-3336

## LETTRE DE CONFORMITÉ - LETTER OF COMPLIANCE

Client/Customer DART AEROSPACE LTD Date: NOV. 24/2011  
N° de commande du client/Customer order No: PO 15232  
Notre n° de feuille de route/Our order No: 116710  
Notre n° de dessin/Our drawing No: —  
Description/Customer drawing No: D2333-103, D2333-105, D2333-107  
Nom de la piece/Part Name: HEATER TUBING  
ONE PIECE OF EACH

La présente est pour certifier que le matériel ci-haut mentionné se conforme aux exigences contractuelles de qualité et/ou de la confirmation de la commande, qu'il a été produit, inspecté et testé selon les spécifications standards applicables de notre programme de contrôle de la qualité, du contrat et du(des) dessin(s).

This is to certify that the material covered by this document conforms to the quality requirements of the purchase order or contract, that the material has been produced, verified and tested according to applicable standard specifications listed in our quality control procedures, contract specifications and/or drawing(s).

Signé par/Signed by: G. Houle

G. HOULE POUR B. OVERBURY

Directeur des services techniques/Technical Services Director

Pour la Compagnie Cintube Ltée/On behalf of Cintube Ltd.

F 10.4,5

# MILL TEST CERTIFICATE

## SHANGHAI PUFA STAINLESS STEEL PIPE FACTORY

7 Hongye Road, Tang Town, Pudong New District, Shanghai, China

ISO 9001:2008 MOODY

REGISTRATION No. T110703068

CHITOLE LTD.  
116710  
DART AEROSPACE  
PO15232  
NOV. 23/2011

CERTIFICATE NO. □ 10-5-6	PURCHASER □ SC MFG Group
COMMODITY □ Seamless Stainless Steel Tube OD Polished to 240Grit	CONTRACT NO.: SC-15201 // PINACLE ORDER # 53263
SPECIFICATION □ ASTM A213-08/ASME SA213-08/ASTM A269-08 EAW	DATE OF REPORT □ 2010.5.9

Steel Grade	Heat No.	Lot No.	Dimensions					Process	Delivery Condition	Macroscopic Inspection	
			O.D. (in)	W.T. (in)	Length (ft)	Pieces	Feet			End Cut	Appearance
TP304/ TP304L	TG090962		1	0.049	20	100	2,000	Cold-Drawn	Solution -Annealed	Passed	Passed

### Chemical Composition (W.T. %)

Element	C	Mn	P	S	Si	Cr	Ni	Mo	Ti			
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.0~20.0	8.0~11.0		/			
Ladle Analysis	0.023	0.82	0.038	0.001	0.34	18.16	8.09		/			
Product Analysis	0.018	0.87	0.041	0.001	0.31	18.33	8.29		/			

### Mechanical Properties

Test Item	Y.S. (MPa) Rp0.2	T.S. (MPa) Rm	EL. (%) In 2 in	Reduction of Area Z. (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test
Requirements	≥205	≥515	≥35	/	HRB≤80	/	21%	e=0.09	
Test Results	280/290	640/650	65/66	/	78/80	/	Passed	Passed	Passed

### Non Destructive Tests

Test Item	Eddy Current Test	Ultrasonic Test	Hydrostatic Test	Inter-granular Corrosion Test	Remarks
Requirements	ASTM E 426	/	/	/	Materials is NACE MR0103 2007 compliant Tubes tested per ASTM A1016-04a All tubes annealed to above 900 Deg F and water quenched below 800 Deg F in 3 minutes- No weld repair performed In compliance with Mil-P-24691 / 3 In compliance with RoHS Directive 2008/35/EC Tubes Made in CHINA -Material compliance to ASTM A262 Practice E
Test Results	Passed	/	/	/	

We hereby certify that the material described herein has been made and tested completely in accordance with the above specification and with the requirements of the purchase order or contract.

Prepared by  
QC Manager

Approved by



General Manager